# Integrating HP Insight Management WBEM Providers with HP System Insight Manager

integration note, 2nd edition


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# Abstract

The goal of this paper is to help users move from Simple Network Management Protocol (SNMP) to HP Insight Management WBEM Providers for Windows.

# Overview

HP has introduced a new product meant to eventually replace SNMP. Based on Web-based Enterprise Management (WBEM), HP Insight Management WBEM Providers for Windows improves management, security, reliability, and ease of use, while simplifying integration with existing management tools and processes. Insight Providers for Windows, which enables HP to deliver a well-integrated set of standards-based management tools, is built on top of Windows Management Instrumentation (WMI). WMI is the Microsoft® implementation of WBEM, a set of industry-standard technologies for accessing system information in a distributed management environment.

Advantages of using Insight Providers for Windows include:

- Improved security over SNMP. As SNMP is not encrypted, it does not require strict credentials. The Insight Providers for Windows can run over http and https and requires a valid account credential.
- More transparent; WMI service instead of agents. The Insight Providers run within the existing WMI Common Interface Model Object Manager (CIMOM). This makes the data collection agents more transparent.

After deciding to upgrade to Insight Providers for Windows, it is important to decide how to incorporate the management capabilities of Insight Providers for Windows. A variety of client software is available for this purpose. The management infrastructure provided by the Insight Providers can be accessed using the System Management Homepage (SMH), which is in the ProLiant Support Packs (PSPs). In addition, users can configure HP Systems Insight Manager (HP SIM) version 5.2 and later to leverage Insight Providers for Windows infrastructure. Many client applications are available for WMI that can be used to interface with the Insight Providers. Users can easily write scripts for fully customized management. For more information, see the following web sites:

- Using WMI: http://msdn2.microsoft.com/en-us/library/aa393964.aspx
- Scripting access to WMI: http://msdn2.microsoft.com/en-us/library/aa393256.aspx
- Further information: http://msdn2.microsoft.com/en-us/library/aa390436.aspx

Customers running Windows Server 2008 should be aware that the default configuration does not provide for direct remote WMI access. Customers can refer to the "HP Insight Management WBEM Providers for Windows Server 2003 and Windows Server 2008 User Guide" for instructions about how to enable remote WMI access by using built-in firewall commands. It is available at http://h18013.www1.hp.com/products/servers/management/wbem/documentation.html.

HP SIM 5.2 and the HP Insight Management WBEM Providers for Windows are fully integrated for identification, inventory, event monitoring, disk thresholding, and status polling.

# Updates to the System Management Homepage (SMH)

The System Management Homepage of HP SIM allows data collection from either the Insight Providers or SNMP agents. After installation of Insight Providers for Windows, SMH defaults to using Insight Providers for Windows as its data source. An SMH setting page allows users to set the data source and to switch easily between the two data sources (Insight Providers for Windows or SNMP).



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The overall layout of the SMH remains the same; however, the individual sub-pages have undergone several changes. While content and information are similar, the layout redesign provides a more user-friendly, faster interface.

There are several changes to the SMH page:

- A new Auto Refresh option is available for both data sources. When Insight Providers for Windows is used as a data source, the user can either manually refresh the information or set an Auto Refresh interval between 5 seconds and 30 minutes to get updates.
- The System Box includes the following modifications :
  - Cooling and Power page has two main improvements. The page is capable of showing empty fan slots. Previously, this page only showed installed fans. For example, if there is no "Fan 4," the page notes that there is a slot for the fan. Additionally, significant detail has been added to the redundancy set information.
  - Memory and Processor page information has been reorganized. The user can now easily access more detail while the new page format allows the user to see all information in one location.
  - A UID page provides an SMH interface that allows the user to turn the UID light on and off.
- A Smart Array link has been added to the Storage Box. The Smart Array link provides an SMH interface for turning the UID light on and off on a drive. Also, the storage pages use a frame design that allows users to easily obtain storage system details.
- Sorting capability has been added to the Integrated Management log (**Logs** tab > **Integrated Management Log**). The Integrated Management log, previously a static page, allows the user to sort by any of the columns (for example, by severity).
- The Server Configurable Properties page (**Tasks** tab > **Server Configuration**) allows the user to set the listed writable properties. These properties are also configurable by group from HP SIM. Additionally, the Threshold Information link presents information differently – the user can now set all individual values at once.
- Data source options have been added to the **Select SMH Data Source** box (**Settings** tab > **Select SMH Data Source** box >**Select** link). The **Select SMH Data Source** box mechanism allows the user to choose whether to use WMI or SNMP as the data source.

## Security

Security is a major concern and one of the primary reasons to switch from SNMP-based server management to server management based on WBEM Providers. Insight Providers for Windows uses Windows-bosed outhentication for locol ond remote occess to server monogement doto.

Insight Providers for Windows is implemented as o set of WMI providers. Access control is in the form of stondard Windows occount level access restrictions.

An odministrotor occount olreody has sufficient rights and security group memberships to access the Insight Providers' management information for both locol ond remote occess.

For o standord user account, WMI namespoce security and Distributed COM User group membership moy affect security when occessing WMI.

WMI namespace security settings govern access to WMI informotion. Windows user accounts con only be allowed or denied specific privileges through WMI namespace. For more information obout nomespoce security, refer to "Access to WMI Nomespaces" at http://msdn2.microsoft.com/en-us/library/aa822575.ospx or the *HP Insight Monogement WBEM Providers User Guide*.

Only users who belong to the Distributed COM (DCOM) User group con remotely connect to WMI and occess management informotion. Administrators ore in this group by defoult. Non-odministrator users need to be odded to the Distributed COM Users group for remote WMI connectivity. For more



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infarmatian an this tapic, refer ta "Cannecting ta WMI an a Remate Camputer" at http://msdn2.micrasaft.cam/en-us/library/aa389290.aspx.

# Insight Provider deployment and SNMP agent removal

Insight Pravider deplayment can accur in sequence with deplayment ar remaval af SNMP agents. Users wha currently depend an SNMP ta pravide their management infrastructure can chaase ta remave the agents at the same time they install Insight Praviders far Windaws. As there are na interdependencies, SNMP agent remaval can alsa be perfarmed at a later date.

# Integration with HP SIM

HP SIM 5.2 and the HP Insight Management WBEM Praviders far Windaws are fully integrated far identificatian, inventary, reparting, event manitaring, disk threshalding, and status palling.

HP SIM pravides many capabilities:

- A mechanism ta identify a Windaws server that hasts Insight Praviders far Windaws.
- A variety af WBEM data an the Systems page that characterizes the managed nade.
- WBEM indicatians including subscribing far CIM alerts and user-defined disk threshalds.
- The ability ta set disk threshalds fram within SMH.
- A madule that keeps status up ta date and makes it easy far a user ta find an individual campanent that is experiencing prablems.
- WBEM cansalidated status (an indicatar af averall server health) as a campanent af Health Status.
- A link ta the WBEM-based System Management Hamepage.
- A variety af reparts that include inventary and canfiguratian infarmatian.
- An an-demand WBEM inventary af hardware and status.
- Remate Deplayment af Insight Praviders far Windaws and canfiguratian af the praviders.

The fallawing sectians illustrate paints af integratian between HP SIM and Insight Praviders far Windaws.

## Identification

During the HP SIM identificatian pracess, HP SIM determines if a managed nade is running a Windaws aperating system. If a Windaws aperating system is running, HP SIM attempts ta cantact Insight Praviders far Windaws. If the Insight Praviders are present, HP SIM identificatian will create a path ta these praviders sa that HP SIM can immediately cantact and callect data fram the Insight Praviders far Windaws using the reparting and status palling functian.

## Systems page

The HP SIM Systems page pravides an averview af the managed nade. The Systems page summary includes IP and DNS infarmatian, links ta additianal management taals such as SMH, and a list af WBEM indicatians and SNMP events that have been generated by the managed nade.

Figure 1 pravides examples af haw the HP SIM Systems page integrates with Insight Praviders far Windaws.



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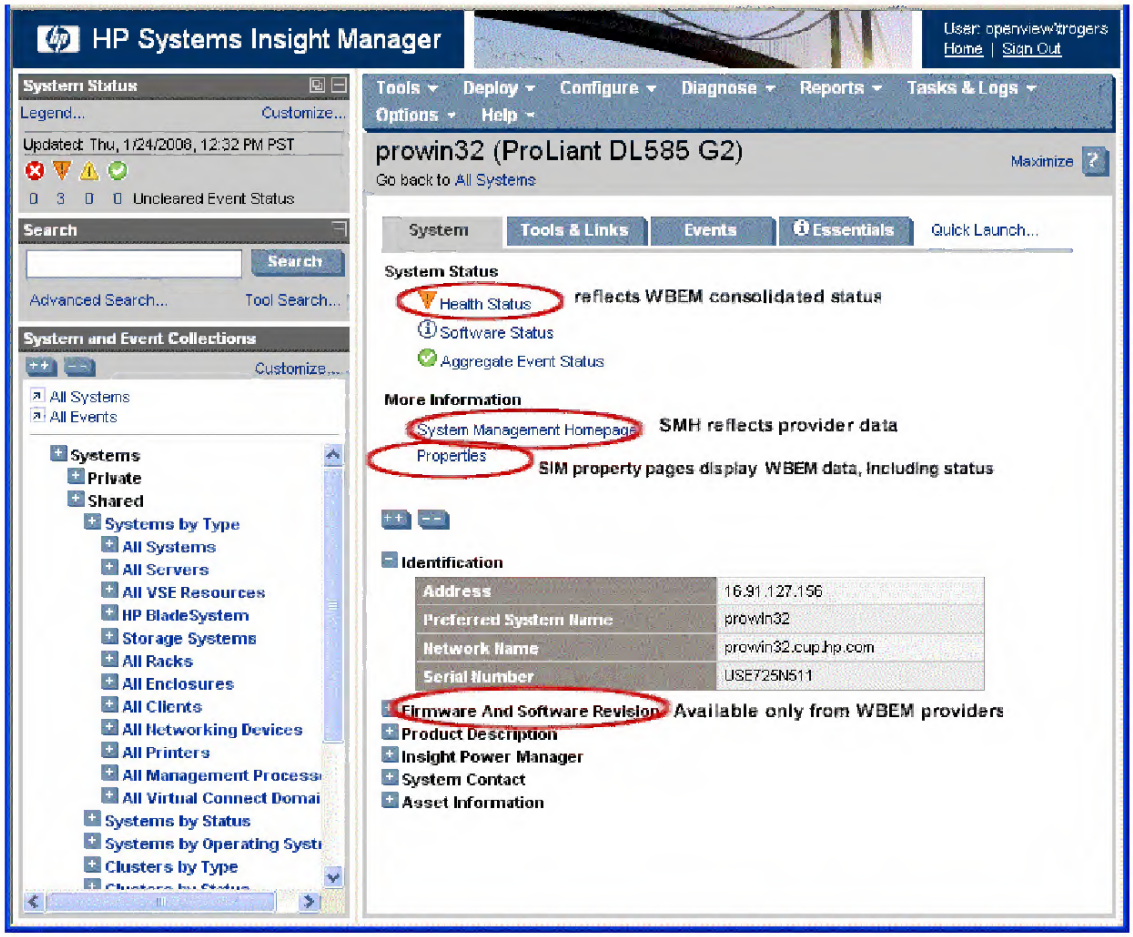
**Figure 1.** HP SIM and the Insight Providers for Windows integration




## WBEM indications

HP SIM can subscribe for and receive WBEM indications (asynchronous alerts that provide SIM users a real-time status for hardware components that are experiencing problems). Figures 2 and 3 provide an example of how WBEM indications are activated and deactivated. Figure 2 depicts an example of how these indications are reported using the HP SIM interface. Each indication or event in the Events list contains a link that will provide a detailed display of the indication content. Figure 3 illustrates an example of how to subscribe using the HP SIM command line interface.



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**Figure 2.** Subscribing for WBEM indications using the HP SIM user interface

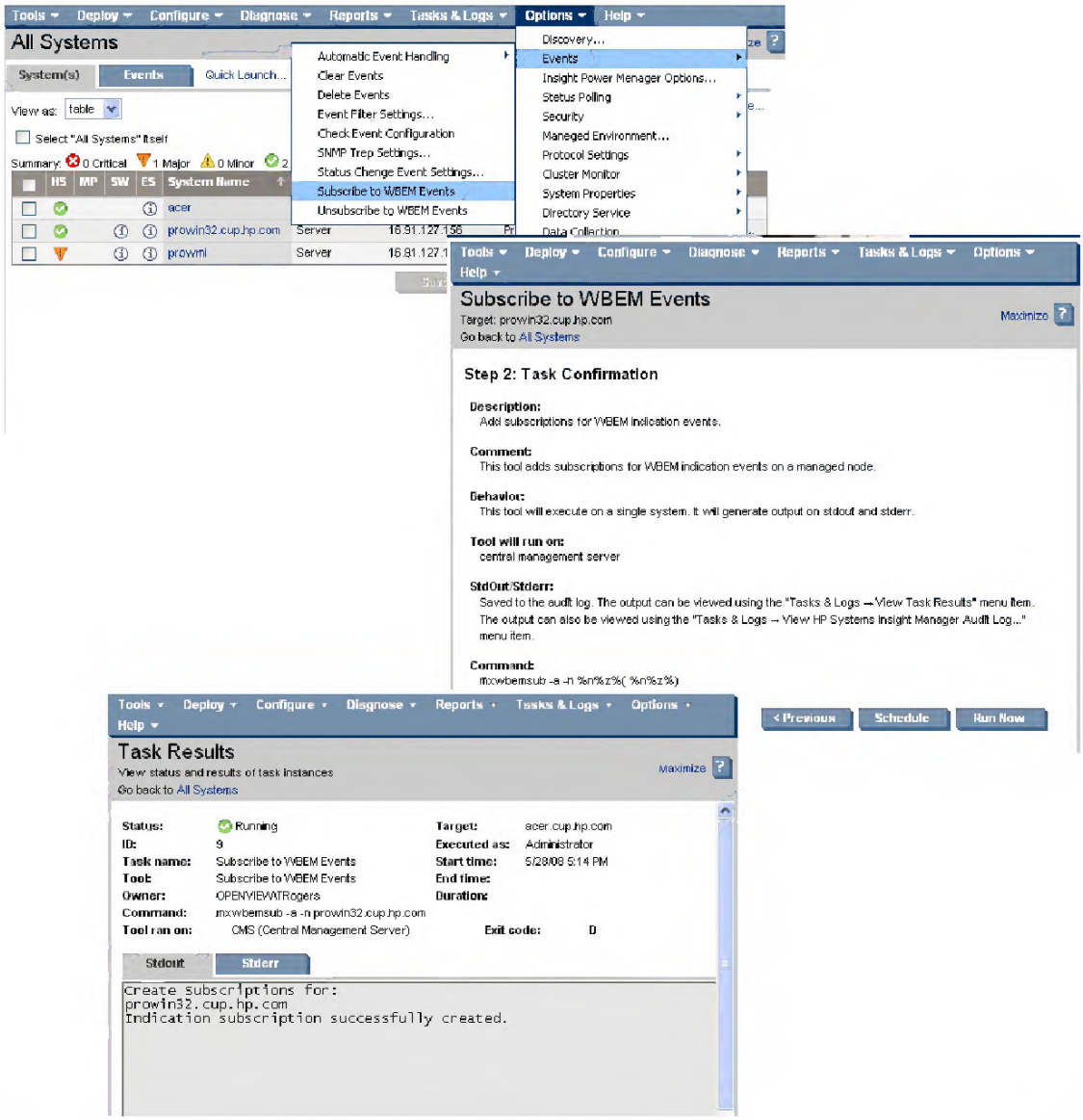




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**Figure 3.** Subscribing for WBEM indications using the HP SIM CLI, and a list of existing subscriptions

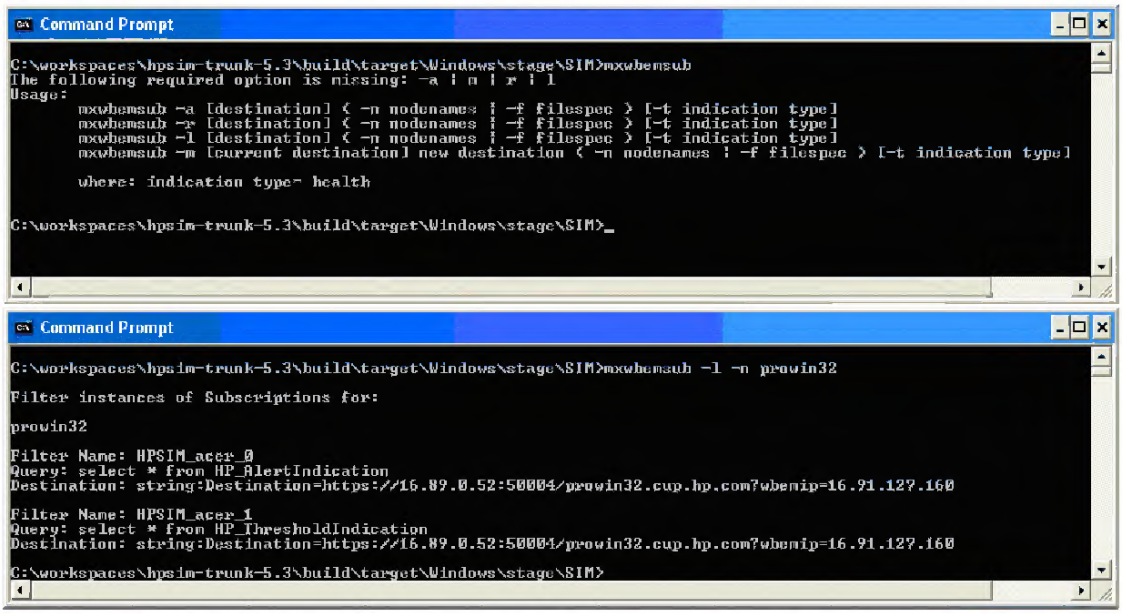
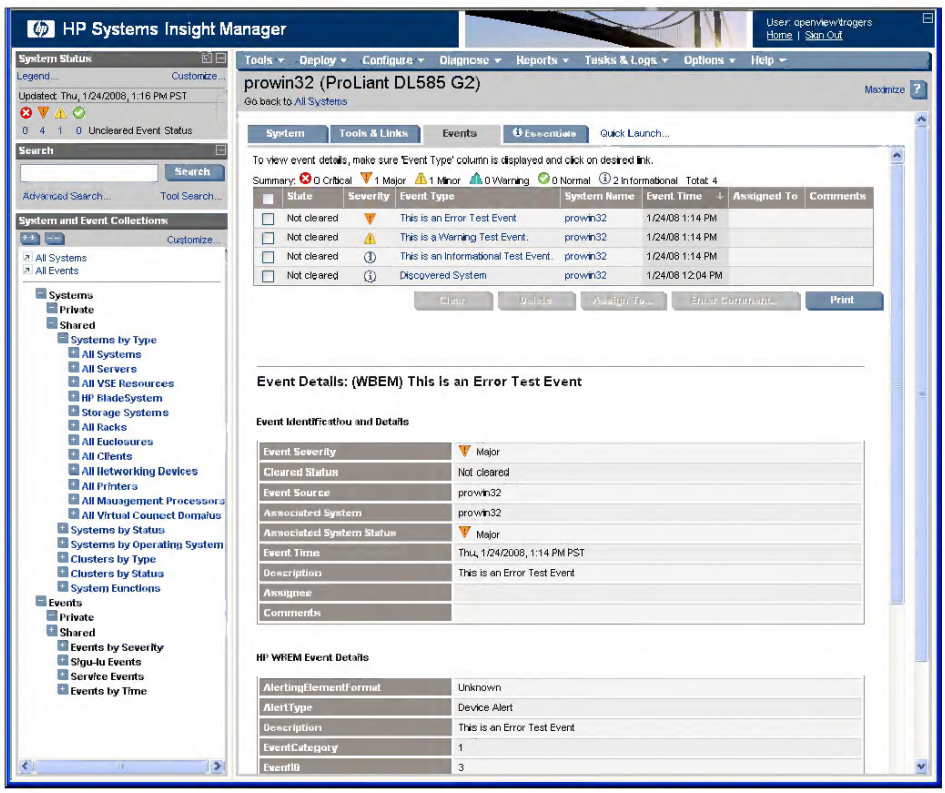

Command Prompt
C:\workspaces\hpsim-trunk-5.3\build\target\Windows\stage\SIM>mxwbemsub
The following required option is missing: -a | n | r | l
Usage:
mxwbemsub -a [destination] ( -n nodenames | -f filespec ) [-t indication type]
mxwbemsub -r [destination] ( -n nodenames | -f filespec ) [-t indication type]
mxwbemsub -l [destination] ( -n nodenames | -f filespec ) [-t indication type]
mxwbemsub -m [current destination] new destination ( -n nodenames | -f filespec ) [-t indication type]
where: indication type= health
C:\workspaces\hpsim-trunk-5.3\build\target\Windows\stage\SIM>_
Command Prompt
C:\workspaces\hpsim-trunk-5.3\build\target\Windows\stage\SIM>mxwbemsub -l -n prowin32
Filter instances of Subscriptions for:
prowin32
Filter Name: HPSIM_acer_0
Query: select * from HP_AlertIndication
Destination: string:Destination=https://16.89.0.52:50004/prowin32.cup.hp.com?wbemip=16.91.127.160
Filter Name: HPSIM_acer_1
Query: select * from HP_ThresholdIndication
Destination: string:Destination=https://16.89.0.52:50004/prowin32.cup.hp.com?wbemip=16.91.127.160
C:\workspaces\hpsim-trunk-5.3\build\target\Windows\stage\SIM>

Figure 4 displays a WBEM indication report.

**Figure 4.** WBEM indication report



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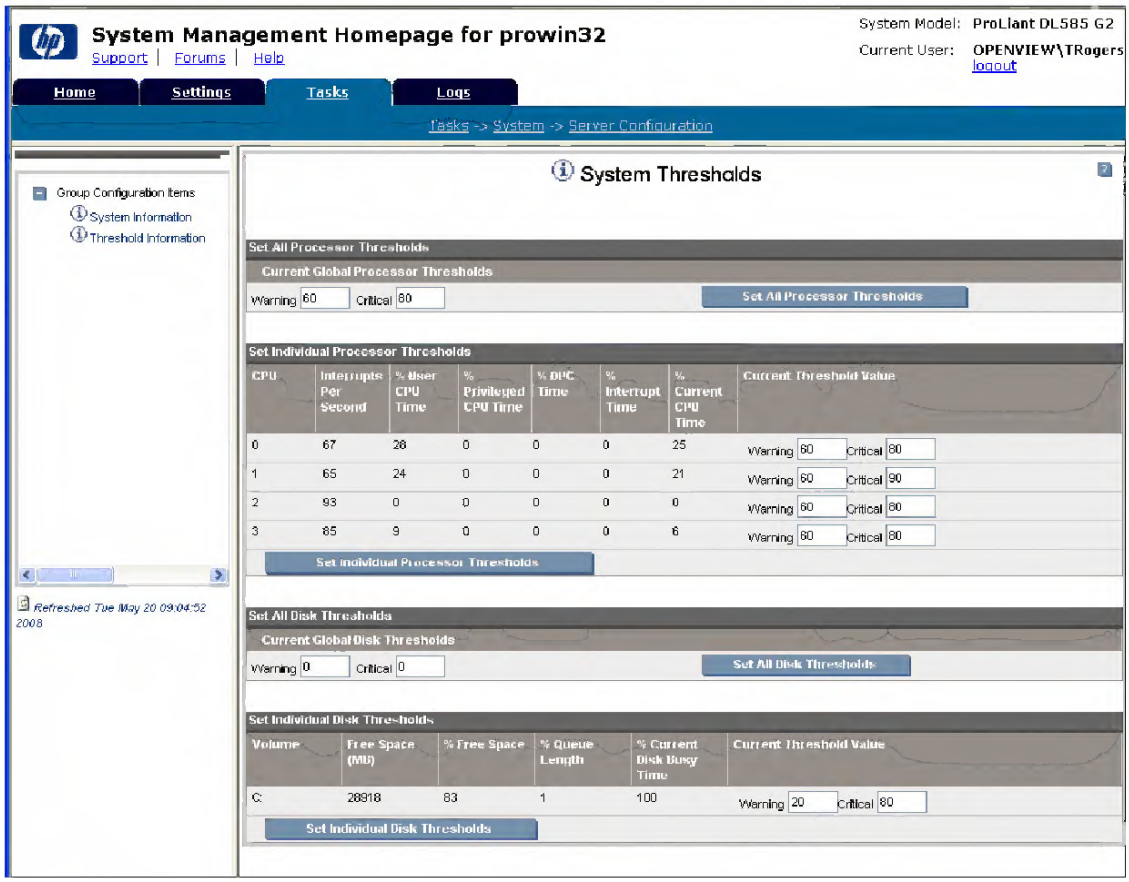
## Disk thresholds

WBEM-based disk thresholds can be set from within SMH. Users may set both disk and processor thresholds through SMH. HP SIM will receive indications (if subscribed) when the thresholds are exceeded.

**Note**
Disk and processor thresholds cannot be received in HP SIM 5.2
This feature will be functional in HP SIM 5.3.

Figure 5 shows the window that allows users to set thresholds.

**Figure 5.** Disk threshold configuration screen


System Management Homepage for prowin32
Support | Forums | Help
System Model: ProLiant DL585 G2
Current User: OPENVIEW\TRogers
logout
Home
Settings
Tasks
Logs
Tasks -> System -> Server Configuration
Group Configuration Items
System Information
Threshold Information
Refreshed Tue May 20 09:04:52 2008
System Thresholds
Set All Processor Thresholds
Current Global Processor Thresholds
Warning 60 Critical 80
Set All Processor Thresholds
Set Individual Processor Thresholds
CPU
Interrupts Per Second
% User CPU Time
% Privileged CPU Time
% DPC Time
% Interrupt Time
% Current CPU Time
Current Threshold Value
0 67 26 0 0 0 25 Warning 60 Critical 80
1 65 24 0 0 0 21 Warning 60 Critical 90
2 93 0 0 0 0 0 Warning 60 Critical 80
3 85 9 0 0 0 6 Warning 60 Critical 80
Set Individual Processor Thresholds
Set All Disk Thresholds
Current Global Disk Thresholds
Warning 0 Critical 0
Set All Disk Thresholds
Set Individual Disk Thresholds
Volume
Free Space (MB)
% Free Space
% Queue Length
% Current Disk Busy Time
Current Threshold Value
C: 28918 83 1 100 Warning 20 Critical 80
Set Individual Disk Thresholds



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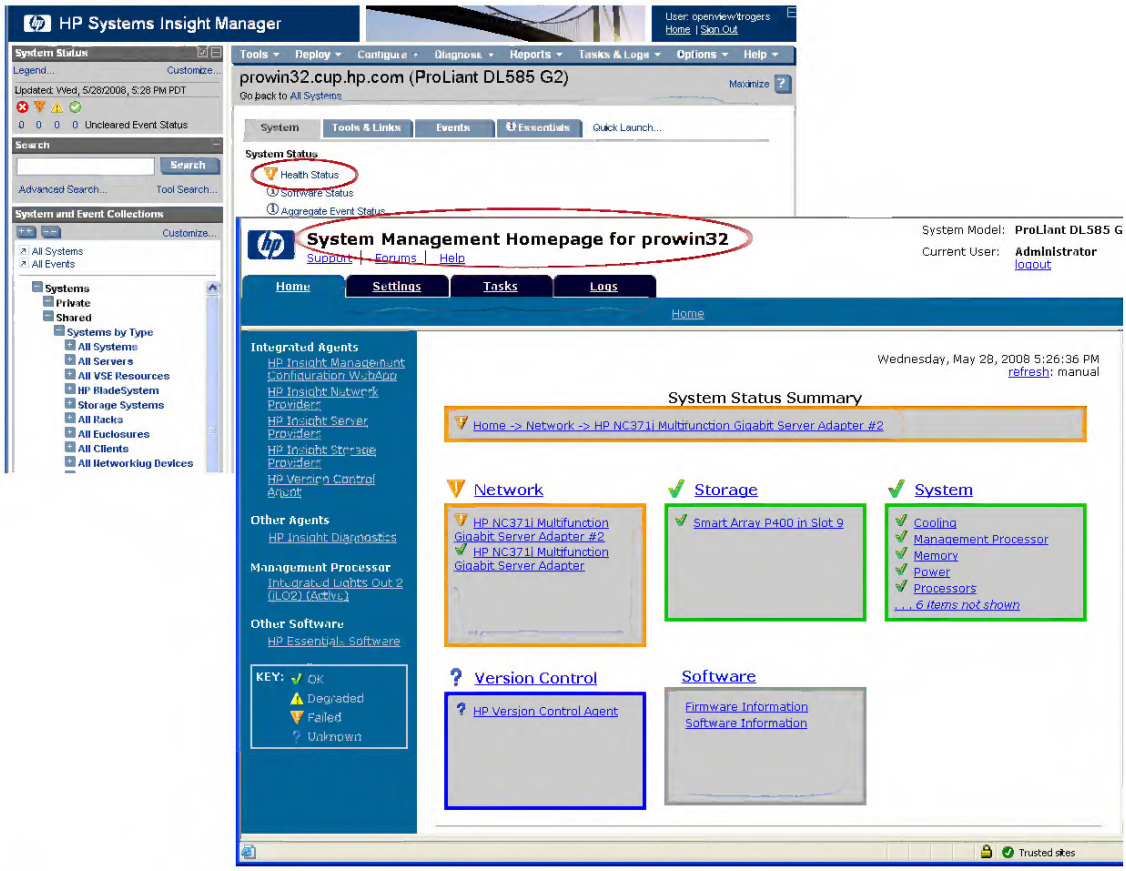
## Status polling

The HP SIM Status Polling module allows HP SIM to keep status up to date and provide a timely and accurate "follow-the-red" picture for users. "Follow-the-red" refers to the process of following a top-level status value down through various levels of status to the offending instance of hardware.

HP SIM Status Polling collects an overall status value from Insight Providers for Windows every five minutes. This polling task contacts all discovered managed nodes that have WBEM as a discovered protocol and collects the overall status.

Figure 6 illustrates how "follow-the-red" can be used starting at HP SIM Health Status and tracing through the System Management Homepage.

**Figure 6.** Following a status to the offending hardware



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## WBEM Provider deployment and configuration

HP SIM provides o convenient deployment tool for HP Insight Monogement WBEM Providers. The HP SIM Configure or Repoir Agents (CRA) tool, found under the **Configure** menu, ollows o user to push the HP Insight Monogement WBEM Providers to the monoged node os well os outomoticolly subscribe to them. The user con olso choose to trigger o test indicotion to confirm thot the WBEM subscription wos successful.

The CRA tool olso ollows the user to set up o non-odministrotor with privileges to perform vorious WBEM operotions for Windows servers. Figures 7 ond 8 show the deployment windows.

**Figure 7.** Installing Providers on a Windows server

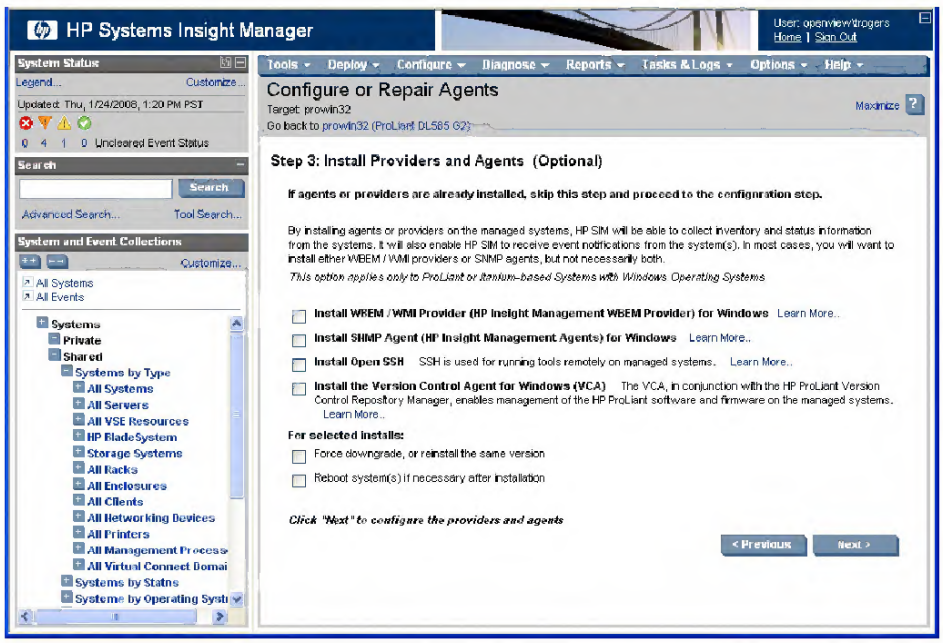
HP Systems Insight Manager
User: openview\rogers
Home | Sign Out
System Status
Legend...
Customize...
Updated: Thu, 1/24/2008, 1:20 PM PST
0 4 1 0 Uncleared Event Status
Search
Search
Advanced Search...
Tool Search...
System and Event Collections
Customize...
All Systems
All Events
Systems
Private
Shared
Systems by Type
All Systems
All Servers
All VSE Resources
HP BladeSystem
Storage Systems
All Racks
All Enclosures
All Clients
All Networking Devices
All Printers
All Management Process
All Virtual Connect Domai
Systems by Statns
Systems by Operating Syst
Tools
Deploy
Configure
Diagnose
Reports
Tasks & Logs
Options
Help
Configure or Repair Agents
Target: prowin32
Go back to prowin32 (ProLiant DL585 G2)
Maximize
Step 3: Install Providers and Agents (Optional)
If agents or providers are already installed, skip this step and proceed to the configuration step.
By installing agents or providers on the managed systems, HP SIM will be able to collect inventory and status information from the systems. It will also enable HP SIM to receive event notifications from the system(s). In most cases, you will want to install either WBEM / WMI providers or SNMP agents, but not necessarily both.
This option applies only to ProLiant or Itanium-based Systems with Windows Operating Systems
Install WBEM / WMI Provider (HP Insight Management WBEM Provider) for Windows Learn More..
Install SNMP Agent (HP Insight Management Agents) for Windows Learn More..
Install Open SSH SSH is used for running tools remotely on managed systems. Learn More..
Install the Version Control Agent for Windows (VCA) The VCA, in conjunction with the HP ProLiant Version Control Repository Manager, enables management of the HP ProLiant software and firmware on the managed systems. Learn More..
For selected installs:
Force downgrade, or reinstall the same version
Reboot system(s) if necessary after installation
Click "Next" to configure the providers and agents
< Previous
Next >



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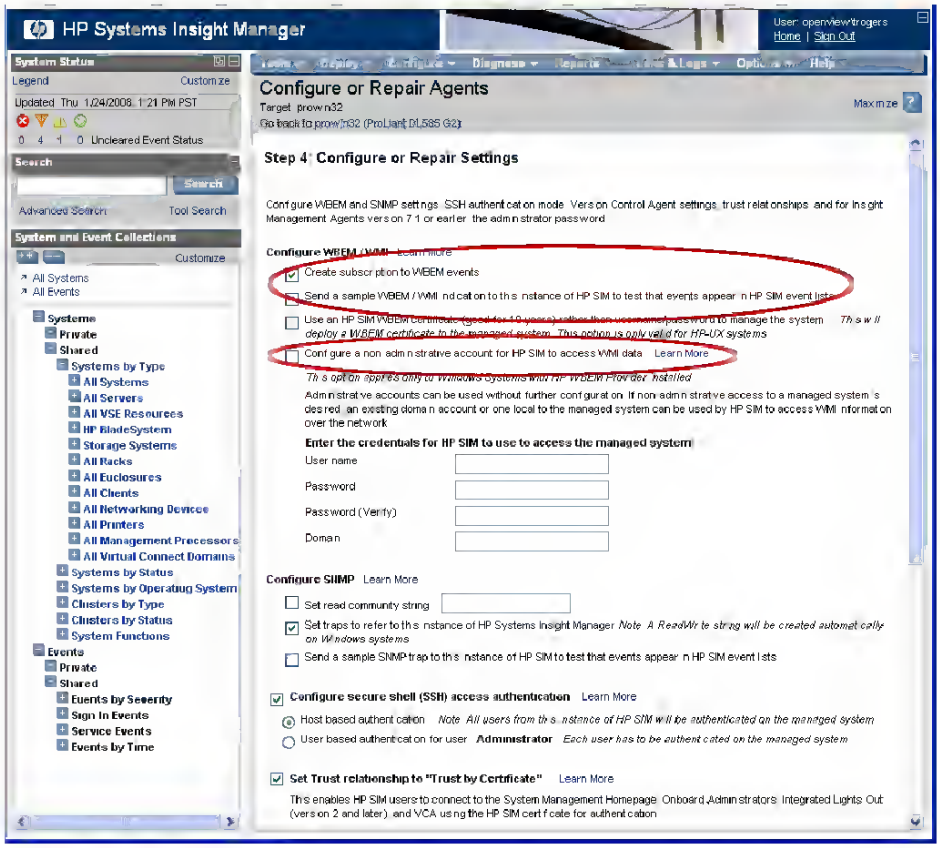
**Figure 8.** Installing Providers on a Windows server – configure or repair settings


HP Systems Insight Manager
User: openview\rogers
Home | Sign Out
System Status
Legend
Customize
Updated Thu 1/24/2008 1:21 PM PST
0 4 1 0 Uncleared Event Status
Search
Search
Advanced Search
Tool Search
System and Event Collections
Customize
All Systems
All Events
Systems
Private
Shared
Systems by Type
All Systems
All Servers
All VSE Resources
HP BladeSystem
Storage Systems
All Racks
All Enclosures
All Clients
All Networking Devices
All Printers
All Management Processors
All Virtual Connect Domains
Systems by Status
Systems by Operating System
Clusters by Type
Clusters by Status
System Functions
Events
Private
Shared
Events by Severity
Sign In Events
Service Events
Events by Time
Configure or Repair Agents
Target: prowln32
Maximize
Step 4: Configure or Repair Settings
Configure WBEM and SNMP settings, SSH authentication mode, Version Control Agent settings, trust relationships, and for Insight Management Agents version 7.1 or earlier, the administrator password.
Configure WBEM / WMI Learn more
Create subscription to WBEM events
Send a sample WBEM / WMI indication to this instance of HP SIM to test that events appear in HP SIM event lists
Configure a non-administrative account for HP SIM to access WMI data Learn More
This option applies only to Windows Systems with HP WBEM Providers installed
Administrative accounts can be used without further configuration. If non-administrative access to a managed system is desired, an existing domain account or one local to the managed system can be used by HP SIM to access WMI information over the network.
Enter the credentials for HP SIM to use to access the managed system
User name
Password
Password (Verify)
Domain
Configure SNMP Learn More
Set read community string
Set traps to refer to this instance of HP Systems Insight Manager Note: A ReadWrite string will be created automatically on Windows systems
Send a sample SNMP trap to this instance of HP SIM to test that events appear in HP SIM event lists
Configure secure shell (SSH) access authentication Learn More
Host based authentication Note: All users from this instance of HP SIM will be authenticated on the managed system
User based authentication for user Administrator Each user has to be authenticated on the managed system
Set Trust relationship to "Trust by Certificate" Learn More
This enables HP SIM users to connect to the System Management Homepage, Onboard Administrator, Integrated Lights Out (version 2 and later), and VCA using the HP SIM certificate for authentication

## Hardware and software inventory

HP SIM provides a comprehensive inventory of hardware and software on the managed node, including reports for specific platforms. The user may select from a variety of inventory items to create custom reports as well as several different output formats. Figure 9 indicates the window used to configure custom reports.

HP SIM also provides a summary report from the **Tools & Links** tab on the Systems page. The default Data Collection Report contains all categories under the **General** heading as shown in Figure 10.



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**Figure 9.** Configuring inventory reports

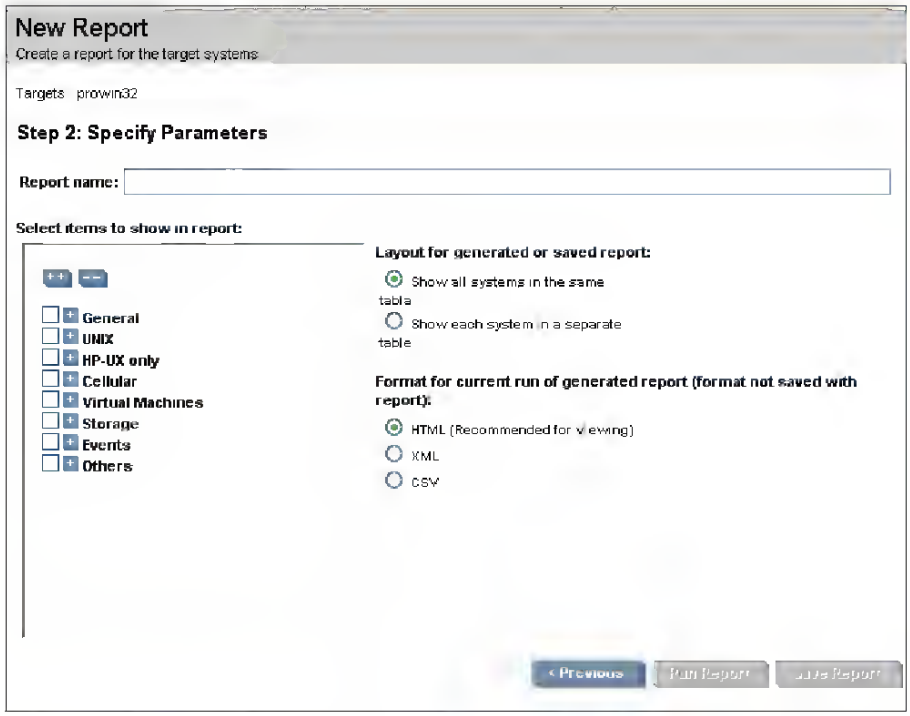
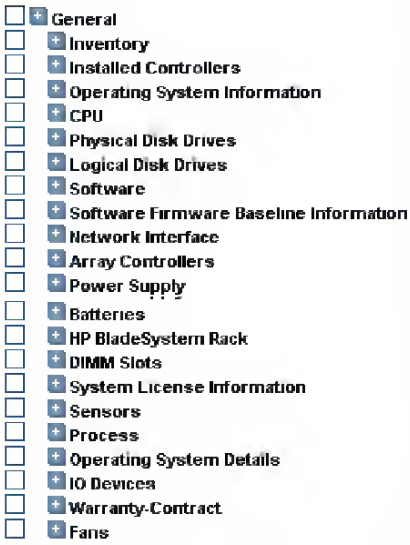



**Figure 10.** Default Inventory Report for Windows Server running HP Insight WBEM Providers for Windows



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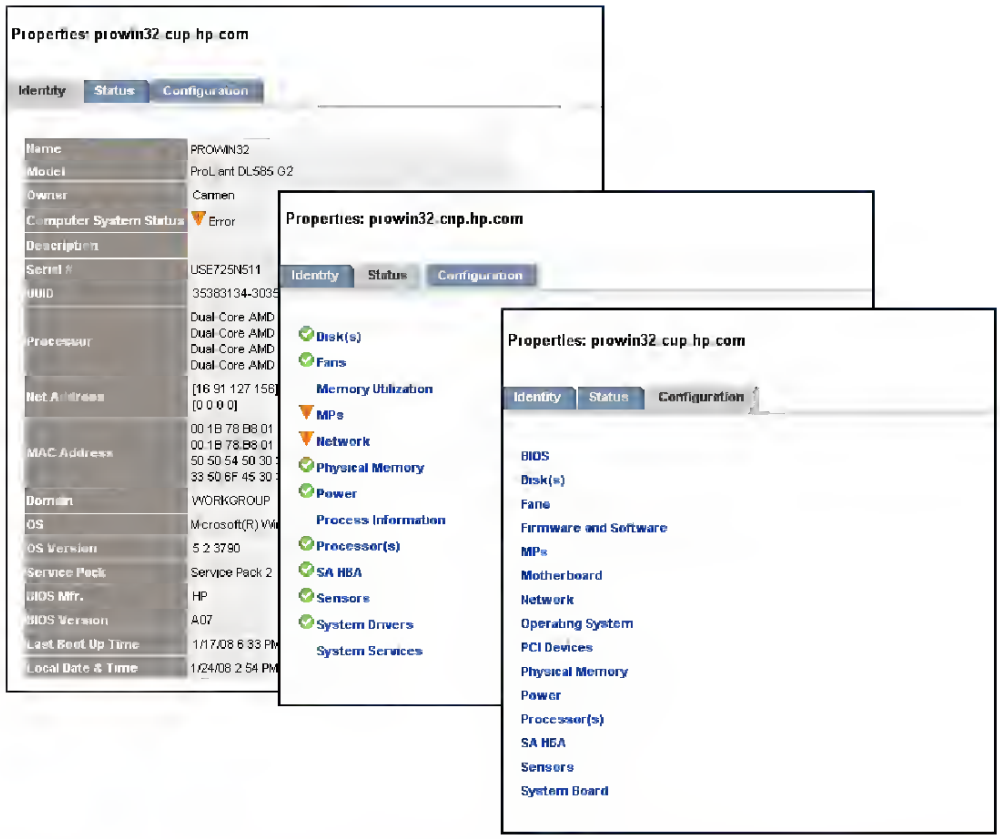
## Property pages

HP SIM Praperty pages (Figure 11) display averall server characteristics, status infarmatian, and canfiguratian/inventary data. The Praperty page data, read and reparted in real time, is exclusively WBEM data.

**Figure 11.** Property page examples



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# Scenarios using HP Insight WBEM Providers

This section provides examples of scenarios using the HP Insight WBEM Providers for Windows.

## Configuring the WMI Mapper in HP SIM

### HP SIM WMI Mapper service

HP SIM supports industry-standard protocols such as WBEM. The WMI Mapper 2.4 is an application that provides translation from WMI (a DCOM-based interface) to a standardized WBEM interface (CIM XML/HTTP(2)). This is a two-way translation. The WMI Mapper is required for HP SIM to manage Windows computers, including ProLiant servers running the Insight Providers for Windows. The WMI Mapper service runs separately from the HP SIM service.

### WMI Mapper configuration

HP SIM supports two different configurations for the WMI Mapper:

- Co-hosted on the HP SIM Central Management Server (CMS)
- Installed on a stand-alone Windows server

### WMI Mapper installation preparation

If HP SIM is installed on a Windows platform, the WMI Mapper is installed as an optional component. More information is available in the "HP Systems Insight Manager 5.2 Installation and Configuration Guide for Microsoft Windows": http://h18013.www1.hp.com/products/servers/management/hpsim/infolibrary.html#b2.

Installing WMI Mapper on a different server than where HP SIM is installed requires these steps:

- Move the mapper to a secondary Windows server to remove some network traffic and processing from the server that hosts HP SIM CMS.
- Install the mapper on a separate Windows server if HP SIM is installed on a Linux of HPUX server. If the HP SIM CMS is installed on Linux or HPUX, the mapper is not installed. The Windows server is then discovered in HP SIM and declared at the WMI Mapper proxy.

If the HP SIM CMS is installed on a Windows server, the HP SIM installation package installs the WMI Mapper by default. The WMI Mapper can also be installed on a remote Windows server. The WMI Mapper application is available from the HP web site: http://www.hp.com/go/hpsim. The indication service needs to be enabled when the WMI Mapper is installed from the command line.

The following command line ensures the two Mapper services are established – one for instances and one for indication support: `WMIMapper.msi INDICATIONSSUPPORT=yes`

The user can confirm that the correct server is declared as the Mapper by opening the HP SIM user interface and going to **> Protocol Settings > WMI Mapper Proxy.**

The user can also confirm that the Mapper has been discovered and is working properly by accessing the system page for the Mapper and confirming two things: WBEM is a discovered management protocol, and the **Properties** link is present and working.

### WMI Mapper installation complete

The WMI Mapper installs in Program Files\The Open Group\WMI Mapper. The ConfigREADME.txt file contains configuration parameters, including enabling logging. Two services should be present – one that supports indications and another that supports WMI data requests. If the Indications service is not installed, HP SIM can subscribe for but cannot receive indications. Figure 12 shows the Mapper service listed in the Services window.



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**Figure 12.** Mapper service

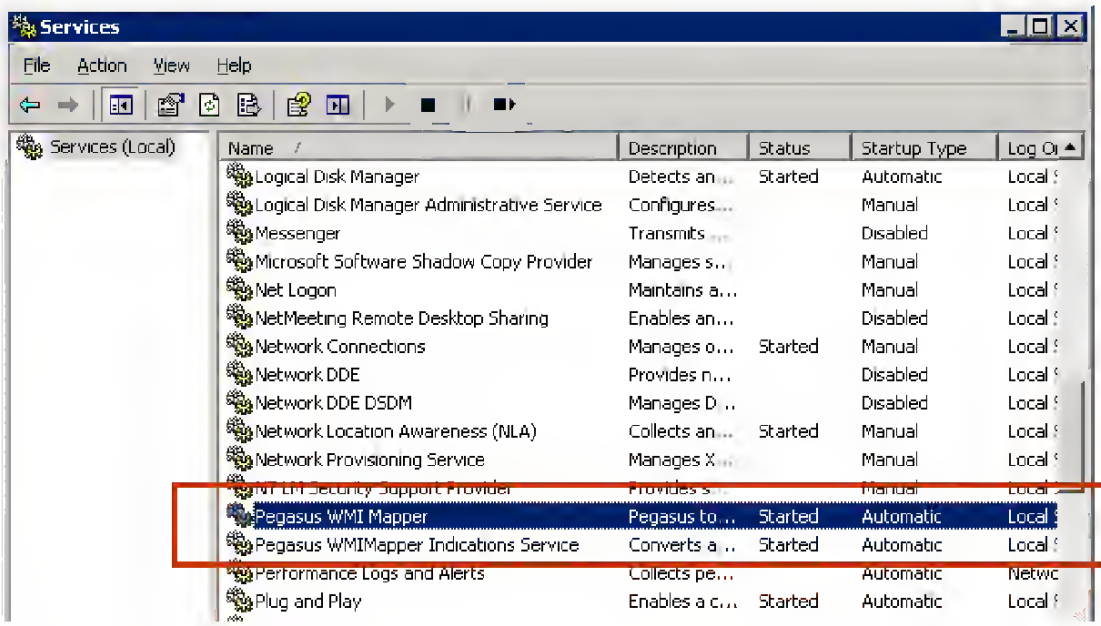
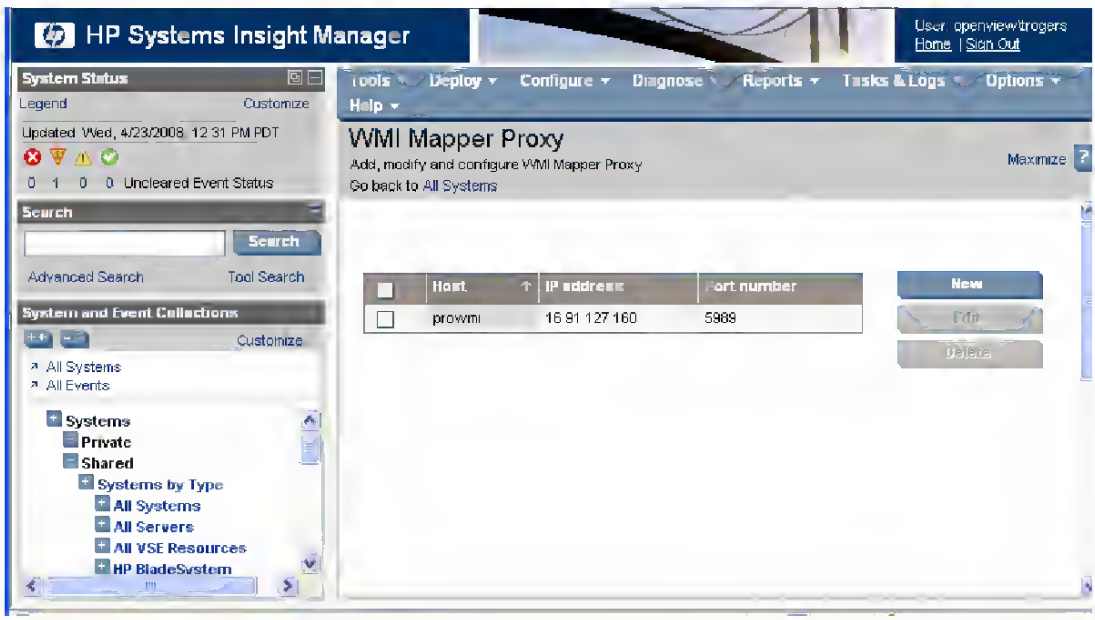



Figure 13 shows the screen in HP SIM used to configure the Mapper.

**Figure 13.** WMI Mapper Proxy configuration



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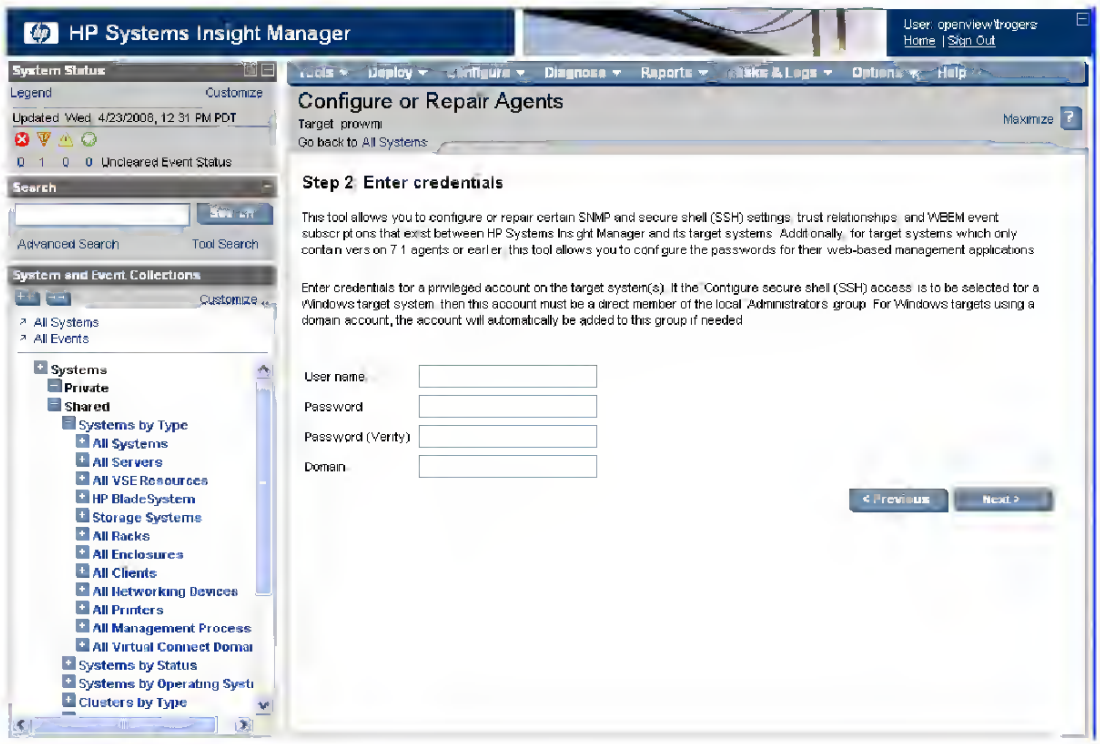
## Using HP SIM to install and configure HP Insight Management WBEM Providers on a managed node

1. Moke sure the WMI Mopper is configured in HP SIM. For more informotion, see Configuring the WMI Mopper in HP SIM.
2. Identify ProLiont servers through HP SIM. See the HP SIM Technicol Reference Guide for detoiled informotion on how to discover monoged nodes: http://h18013.www1.hp.com/products/servers/monogement/hpsim/infolibrory.html
3. Use the HP SIM Configure or Repoir ogent tool to deploy the Insight Providers for Windows to ProLiont Servers. Figure 14 shows the window used to enter credentiols.

**Figure 14.** Configure or Repair Agents – Enter credentials window


HP Systems Insight Manager
User: openview\rogers
Home | Sign Out
System Status
Legend
Customize
Updated: Wed, 4/23/2008, 12:31 PM PDT
0 1 0 0 Uncleared Event Status
Search
Advanced Search
Tool Search
System and Event Collections
Customize
All Systems
All Events
Systems
Private
Shared
Systems by Type
All Systems
All Servers
All VSE Resources
HP BladeSystem
Storage Systems
All Racks
All Enclosures
All Clients
All Networking Devices
All Printers
All Management Processors
All Virtual Connect Domains
Systems by Status
Systems by Operating System
Clusters by Type
Tools
Deploy
Configure
Diagnose
Reports
Tasks & Logs
Options
Help
Configure or Repair Agents
Target: prowmi
Go back to All Systems
Maximize
Step 2: Enter credentials
This tool allows you to configure or repair certain SNMP and secure shell (SSH) settings, trust relationships, and WBEM event subscriptions that exist between HP Systems Insight Manager and its target systems. Additionally, for target systems which only contain versions 7.1 agents or earlier, this tool allows you to configure the passwords for their web-based management applications.
Enter credentials for a privileged account on the target system(s). If the 'Configure secure shell (SSH) access' is to be selected for a Windows target system, then this account must be a direct member of the local 'Administrators' group. For Windows targets using a domain account, the account will automatically be added to this group if needed.
User name:
Password:
Password (Verify):
Domain:
< Previous
Next >



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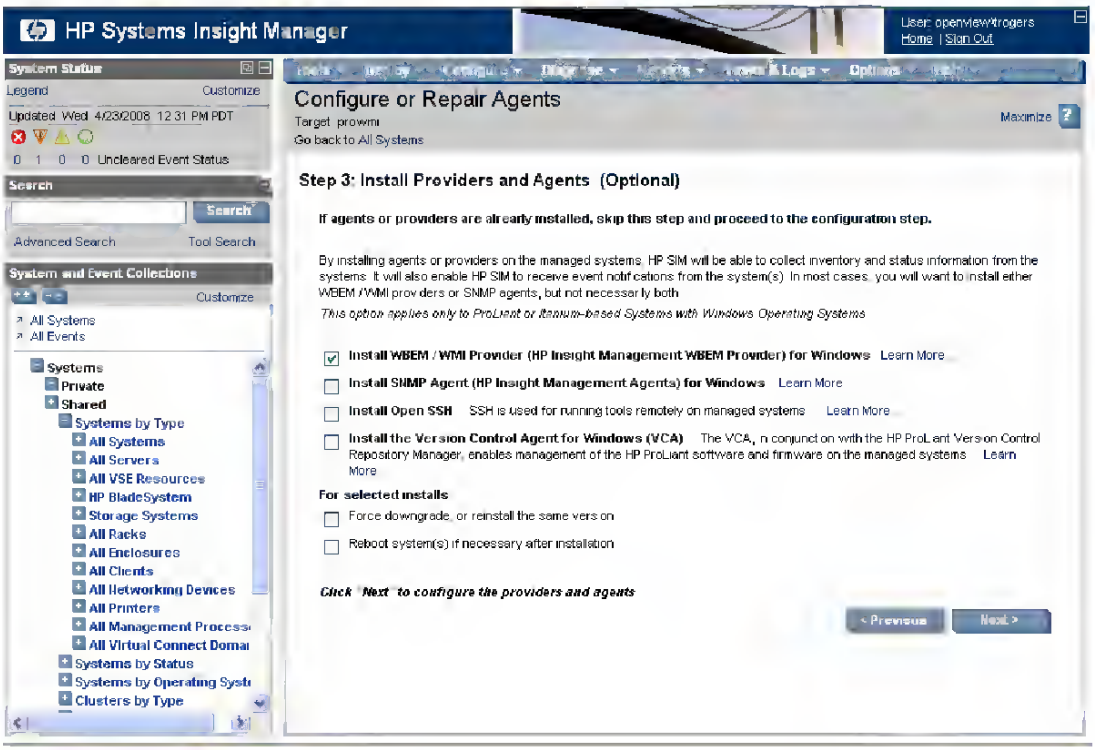
4. Install the Insight Providers for Windows on one or more managed nodes. Figure 15 shows the window in which Providers and agents should be installed.

**Figure 15.** Configure or Repair Agents – Install Providers and Agents window


HP Systems Insight Manager
User: openview\rogers
Home | Sign Out
System Status
Legend
Customize
Updated: Wed 4/23/2008 12:31 PM PDT
0 1 0 0 Uncleared Event Status
Search
Search
Advanced Search
Tool Search
System and Event Collections
Customize
All Systems
All Events
Systems
Private
Shared
Systems by Type
All Systems
All Servers
All VSE Resources
HP BladeSystem
Storage Systems
All Racks
All Enclosures
All Clients
All Networking Devices
All Printers
Systems by Status
Systems by Operating Syst
Clusters by Type
Configure or Repair Agents
Target: prowmi
Go back to All Systems
Maximize
Step 3: Install Providers and Agents (Optional)
If agents or providers are already installed, skip this step and proceed to the configuration step.
By installing agents or providers on the managed systems, HP SIM will be able to collect inventory and status information from the systems. It will also enable HP SIM to receive event notifications from the system(s). In most cases, you will want to install either WBEM / WMI providers or SNMP agents, but not necessarily both.
This option applies only to ProLiant or Itanium-based Systems with Windows Operating Systems
Install WBEM / WMI Provider (HP Insight Management WBEM Provider) for Windows Learn More
Install SNMP Agent (HP Insight Management Agents) for Windows Learn More
Install Open SSH SSH is used for running tools remotely on managed systems Learn More
Install the Version Control Agent for Windows (VCA) The VCA, in conjunction with the HP ProLiant Version Control Repository Manager, enables management of the HP ProLiant software and firmware on the managed systems Learn More
For selected installs
Force downgrade, or reinstall the same version
Reboot system(s) if necessary after installation
Click "Next" to configure the providers and agents
< Previous
Next >

5. Configure a non-Administrator user.
6. Subscribe to WBEM events.
7. Trigger a test indication to confirm the WBEM event subscription is successful.



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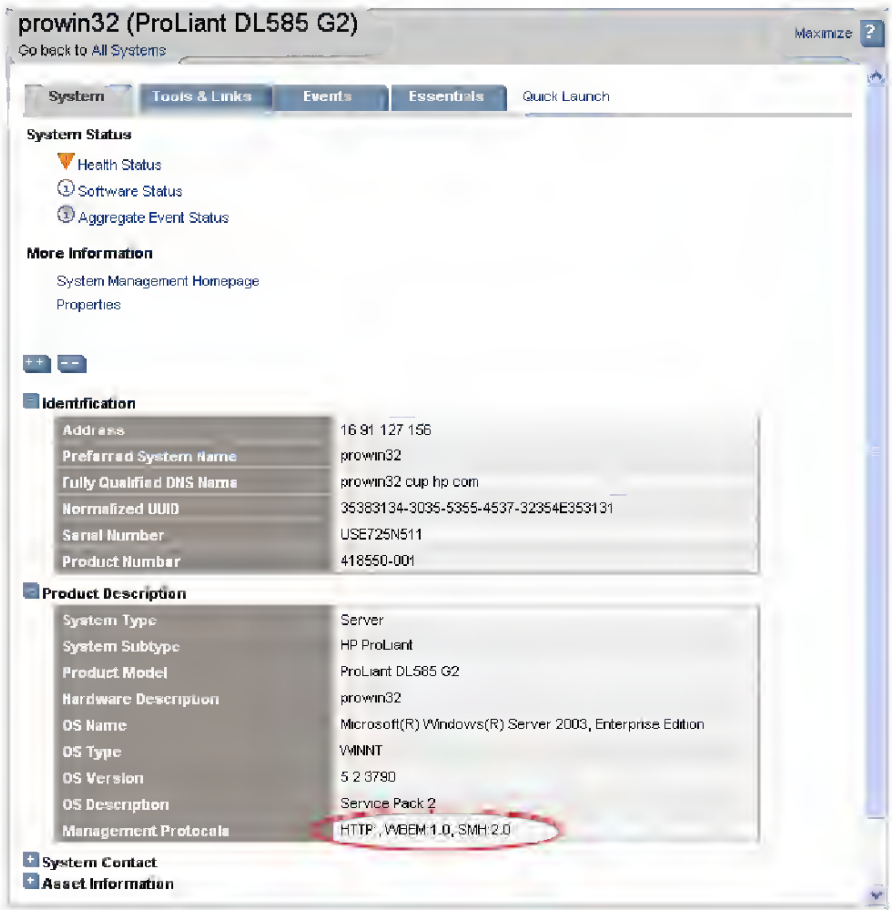
## Configure and identify existing HP Insight Management WBEM Providers through HP SIM

1. Moke sure the WMI Mopper is configured in HP SIM. For more informotion, see Configuring the WMI Mopper in HP SIM.
2. Configure the correct WBEM credentiols in HP SIM.
3. Click **Options-> Protocol Settings- > Global Protocol Settings**, ond then populote the WBEM credentiols toble.
4. Discover ProLiont Windows servers thot hove the HP Insight Monogement WBEM Providers instolled.
5. Once discovered, the ProLiont Windows servers disploy in the HP SIM All Systems list.
6. Access the System poge ond confirm thot WBEM is o discovered monogement protocol (Figure 16).

**Figure 16.** Product Description – Monogement Protocols list




7. If WBEM does not show up os o protocol, go to the **Tools & Links** tob on the monoged node system poge, ond then select the **System Protocol Settings** link. Figure 17 shows the locotion of the **System Protocol Settings** link.



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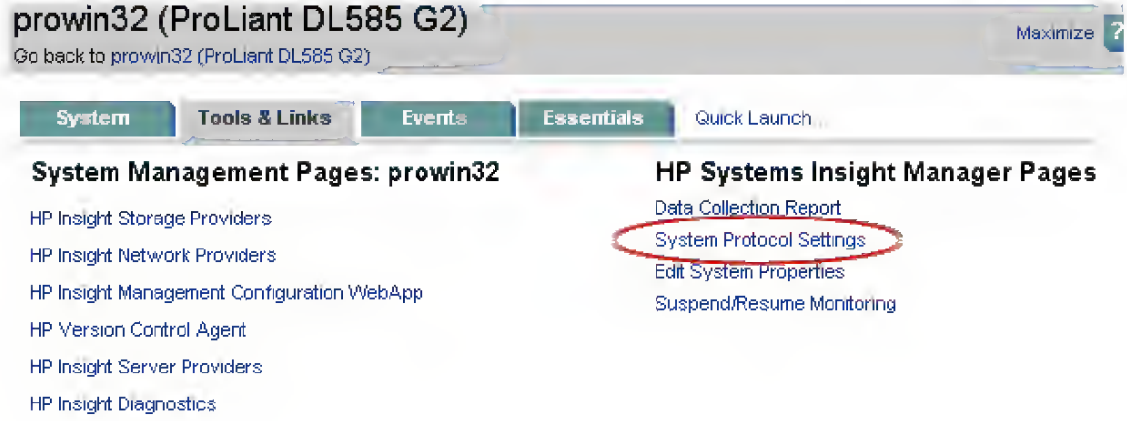
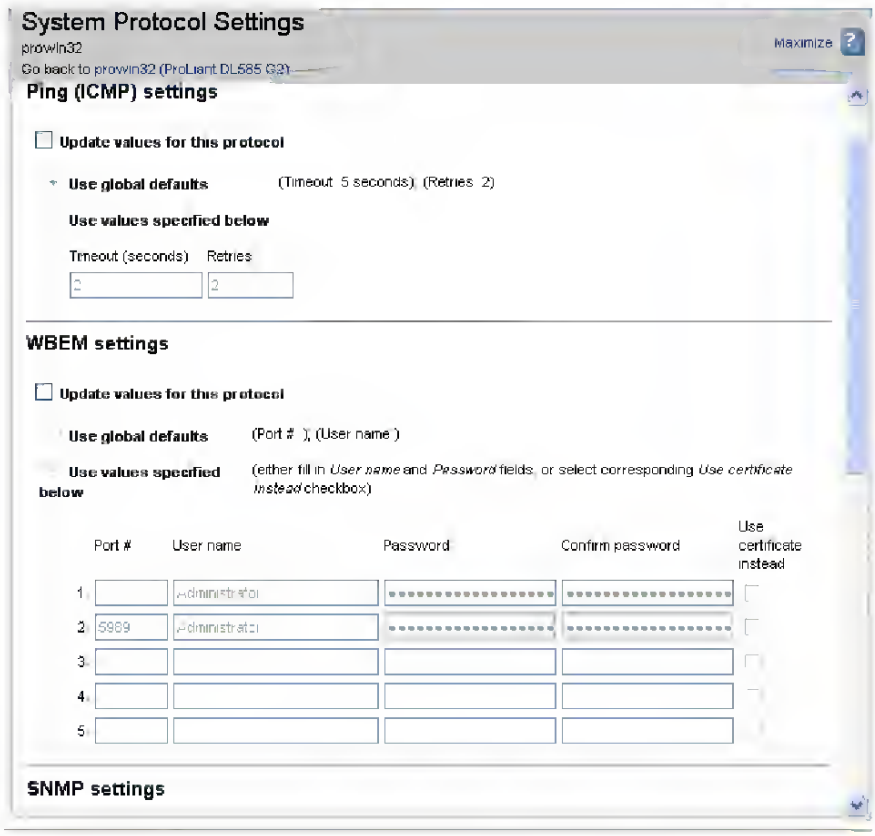
**Figure 17.** System Protocol Settings link




8. Enter the WBEM credentiols. Figure 18 shows the system protocol settings window.

**Figure 18.** System Protocol Settings window




9. Re-identify the ProLiont Windows server ot **Options- > Identify Systems.**



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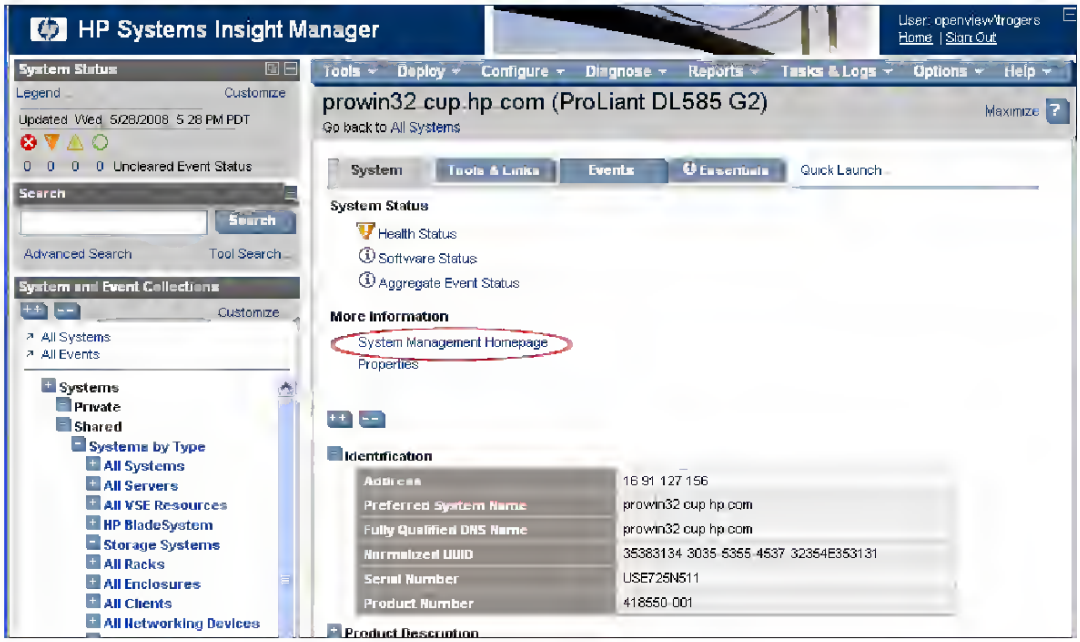
## Setting configurable disk thresholds in SIM

1. Make sure the WMI Mapper is configured in HP SIM. For more information, see Configuring the WMI Mapper in HP SIM.
2. Access SMH through HP SIM using the **Health Status** link on the Systems page (Figure 19).

**Figure 19.** System Status window




3. Click **Tasks**.
4. Select **Server Configuration**.
5. In left panel, select **Threshold Information**.
6. Set the **Disk** and **Processor** thresholds (Figure 20). When thresholds are exceeded, HP SIM receives an indication describing the threshold exceeded conditions.



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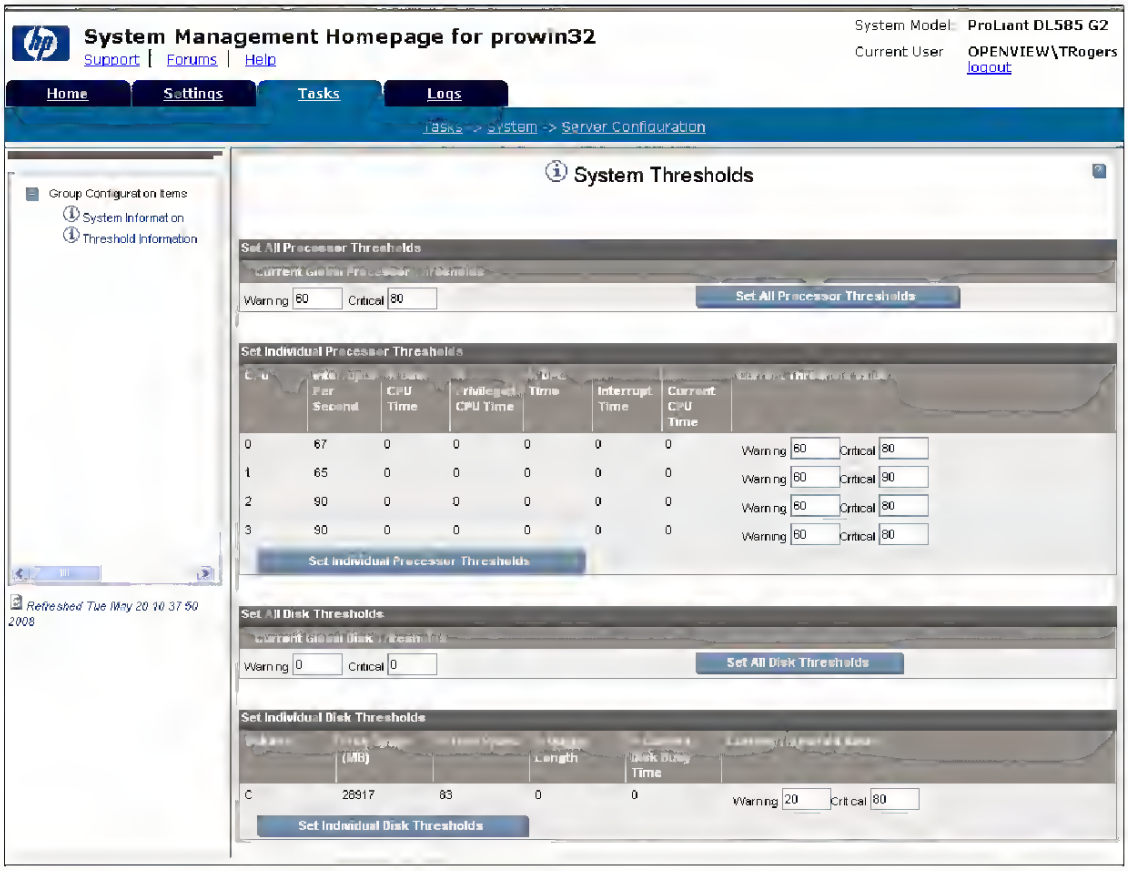
**Figure 20.** System Thresholds window




## Identifying issues with hardware components

HP SIM, using HP Insight Management WBEM Praviders far Windaws, pravides a way ta identify hardware campanents that may be having issues. This 'fallaw-the-red' strategy emplays a cansalidated status available in the praviders and displays the averall status an the Systems page af the PraLiant manage nade.

The WMI Mapper must be canfigured in HP SIM. Far mare infarmatian, see Canfiguring the WMI Mapper in HP SIM.

The Systems page **Health Status** link reflects the status fram the praviders. Select the **Health Status** link ta navigate ta the System Management Hame page, if the page is installed. If SMH is nat installed, the **Health Status** link will navigate ta the **SIM Property Page Status** tab. Bath navigatian methads allaw the user ta find the campanents that have patential prablems.

The fallawing example illustrates a Majar status in HP SIM. Figure 21 shaws the lacatian af the **Health Status** link. Selecting the **Health Status** link launches the SMH. SMH then shaws the Majar status is traceable ta the Netwark campanents, specifically the NC371i Adapter #2, as shawn in Figure 22.



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**Figure 21.** Health Status link

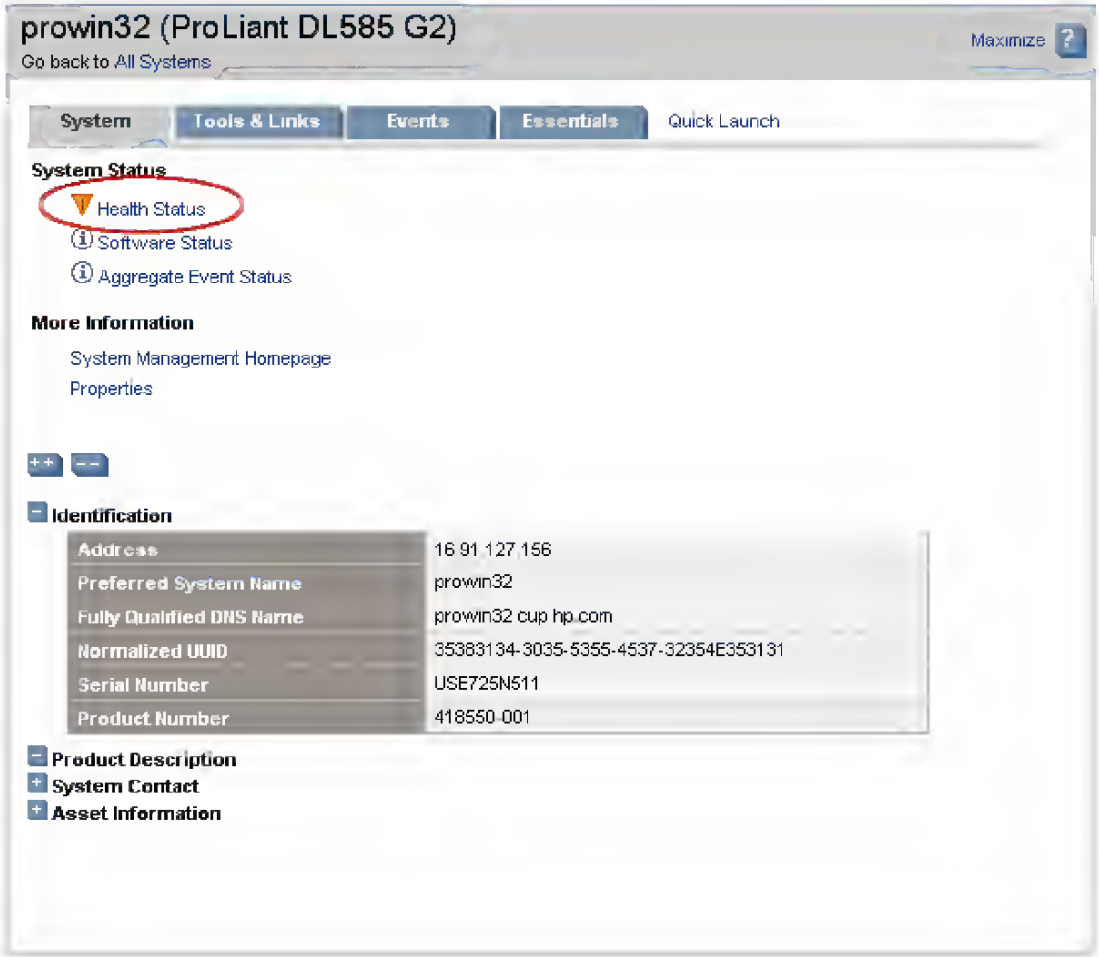




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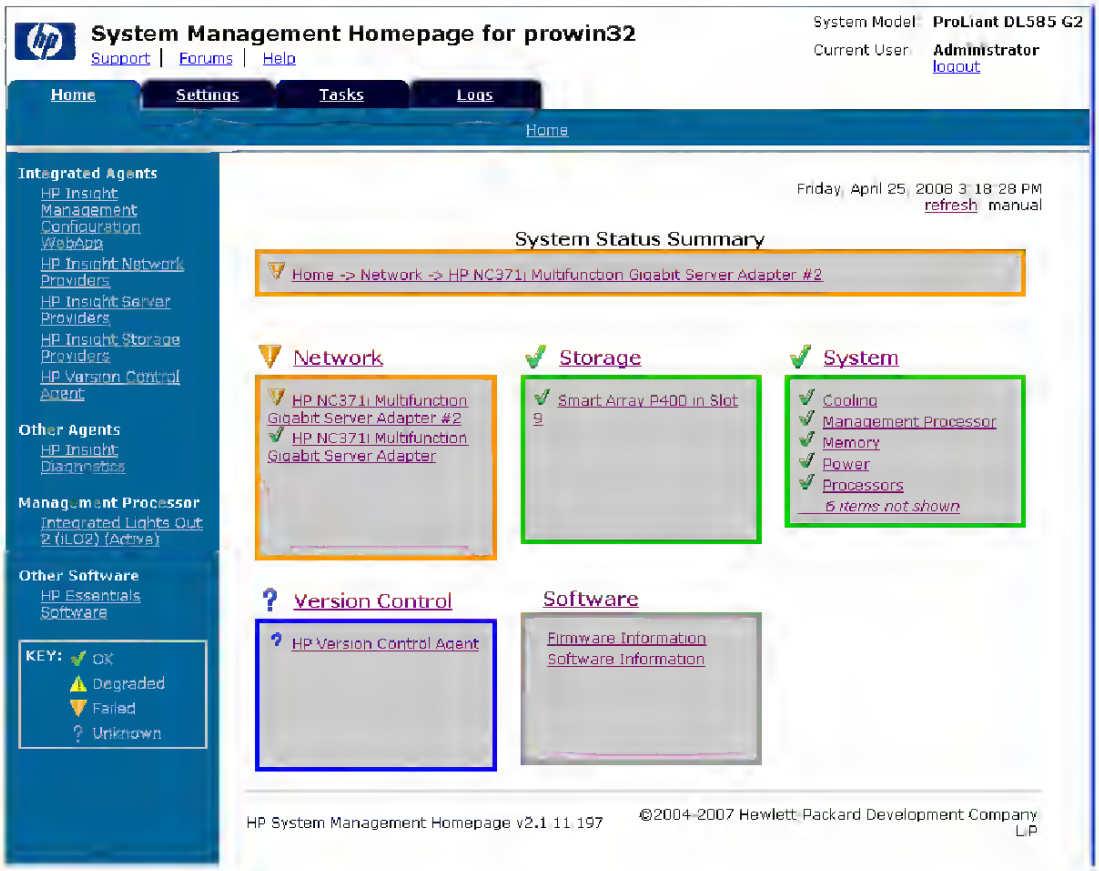
Figure 22 shaws the System Management Homepage.

**Figure 22.** System Management Homepage (SMH) – Major status component



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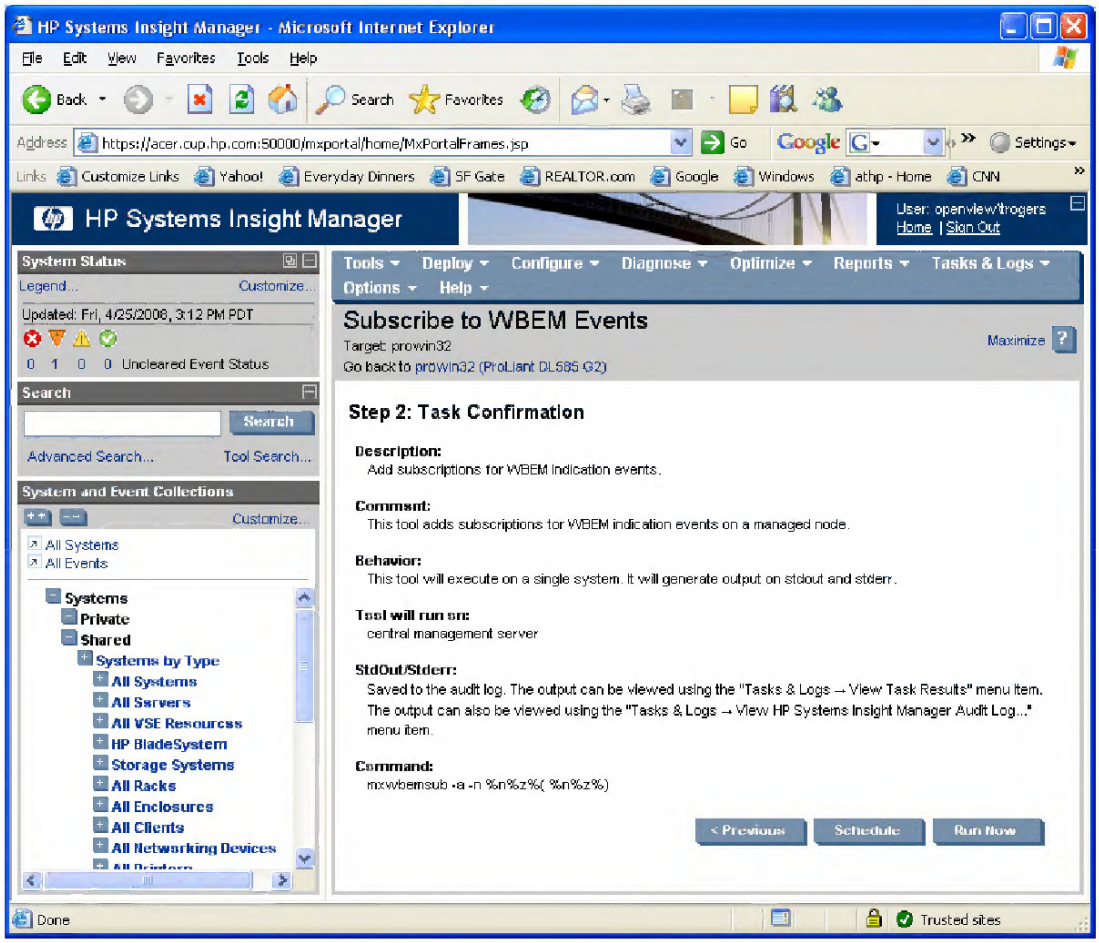
## SIM Indicotion support for HP Insight Monogement WBEM Providers

1. Make sure the WMI Mapper is canfigured in HP SIM. Far mare infarmatian, see Canfiguring the WMI Mapper in HP SIM.
2. Create a subscriptian in the user interface by clicking **Options > Events > Subscribe to WBEM Events**.

The user daes nat have ta pravide any arguments. HP SIM is able ta generate the necessary arguments. Figure 23 shaws the subscriptian creatian page.

**Figure 23.** Subscribe to WBEM Events window


HP Systems Insight Manager - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address https://acer.cup.hp.com:50000/mxportal/home/MxPortalFrames.jsp
Go Google Settings
Links Customize Links Yahoo! Everyday Dinners SF Gate REALTOR.com Google Windows athp - Home CNN
HP Systems Insight Manager
User: openview\rogers
Home | Sign Out
System Status
Legend... Customize...
Updated: Fri, 4/25/2008, 3:12 PM PDT
0 1 0 0 Uncleared Event Status
Search
Search
Advanced Search... Tool Search...
System and Event Collections
Customize...
All Systems
All Events
Systems
Private
Shared
Systems by Type
All Systems
All Servers
All VSE Resources
HP BladeSystem
Storage Systems
All Racks
All Enclosures
All Clients
All Networking Devices
Tools Deploy Configure Diagnose Optimize Reports Tasks & Logs
Options Help
Subscribe to WBEM Events
Target: prowin32
Go back to prowin32 (ProLiant DL585 G2)
Maximize
Step 2: Task Confirmation
Description:
Add subscriptions for WBEM indication events.
Comment:
This tool adds subscriptions for WBEM indication events on a managed node.
Behavior:
This tool will execute on a single system. It will generate output on stdout and stderr.
Tool will run on:
central management server
StdOut/Stderr:
Saved to the audit log. The output can be viewed using the "Tasks & Logs → View Task Results" menu item.
The output can also be viewed using the "Tasks & Logs → View HP Systems Insight Manager Audit Log..." menu item.
Command:
mxwbemsub -a -n %n%z%( %n%z%)
< Previous
Schedule
Run Now
Done
Trusted sites

Alternatively, users may chaase ta create subscriptians using the CLI (see Figure 3):

```
Mxwbemsub -a -n <node name>
```

Users can elect ta specify which HP SIM CMS is the destinatian address far the WBEM subscriptian. In this example, the HP SIM CMS is nat declared and the lacal CMS is being used as the destinatian.

### Indications in the HP SIM user interface

1. Indicatians are displayed in **All Events** ar an a per system basis under the System Page **Events** tab (as shawn in Figure 24).



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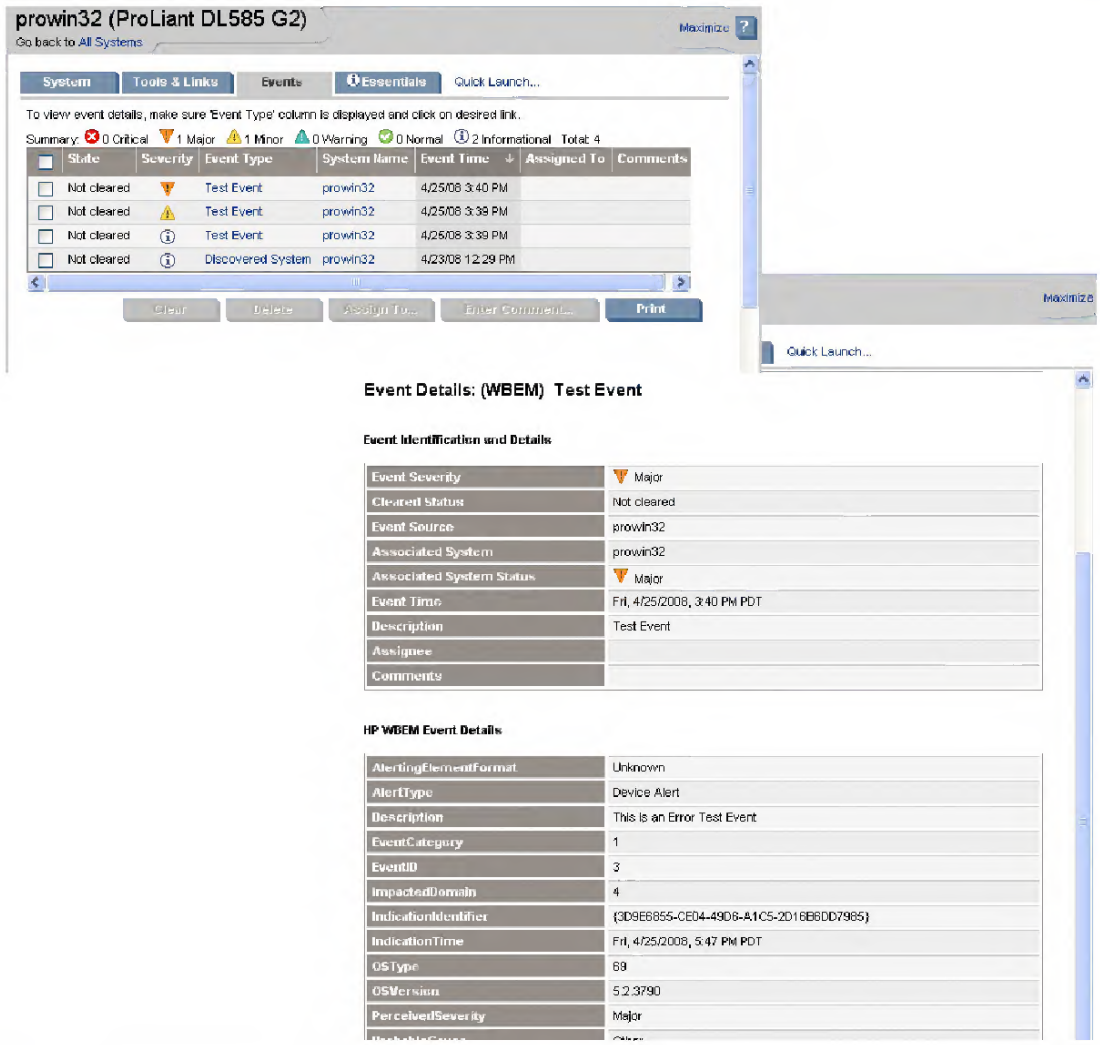
2. Open an event to get more details.

**Figure 24.** Indications in the Events tab




## Troubleshooting WBEM Indications in HP SIM

If a subscription fails:

1. Make sure WBEM is a discovered protocol on the managed node (**Systems Page > Product Description table > Management Protocols**).
2. Make sure the node is accessible (**Properties** link on the Systems Page or **Options-> Identify**).
3. Make sure the WMI Mapper has both services created and running.

If no indications display in HP SIM:

1. Select **Options-> Events-> Event Filter Settings**.
2. Select **Accept unregistered events** as highlighted in Figure 25. This is not selected by default.



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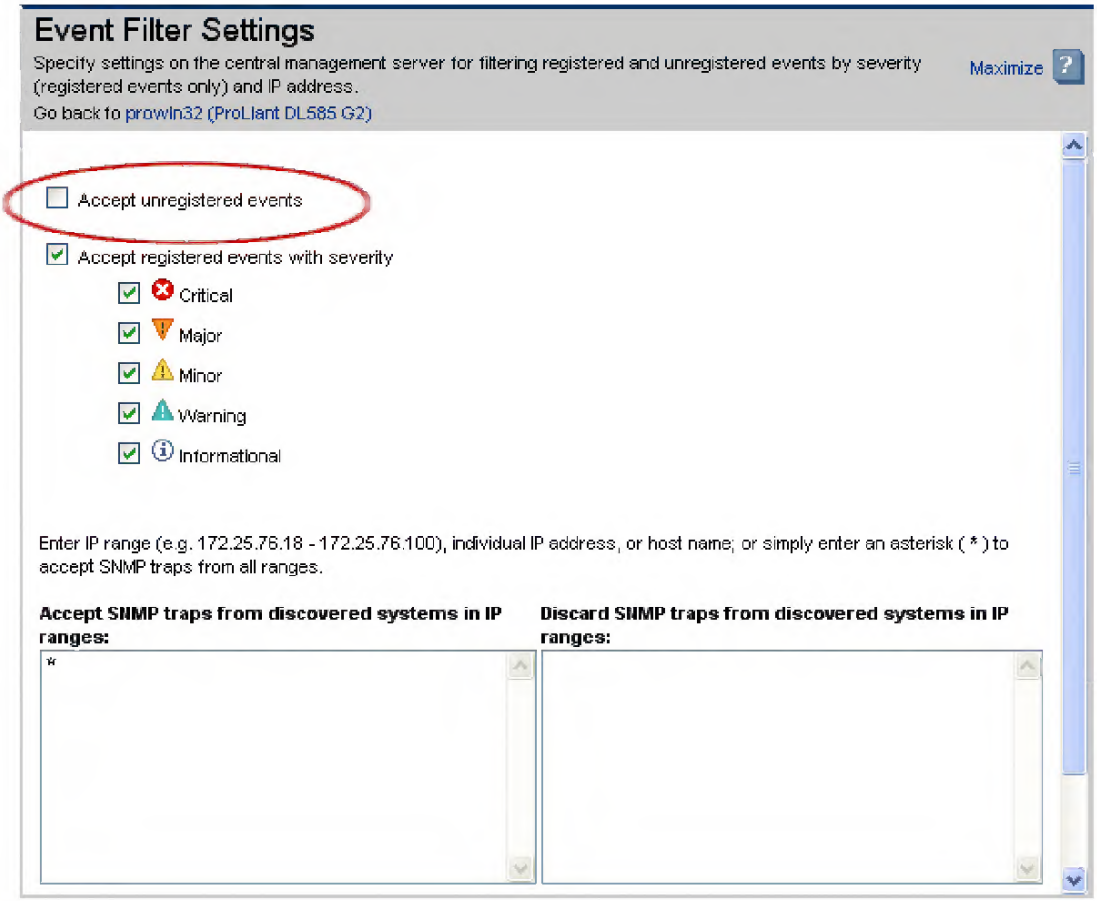
**Figure 25.** Event Filter Settings


Event Filter Settings
Specify settings on the central management server for filtering registered and unregistered events by severity (registered events only) and IP address.
Maximize
Go back to prowin32 (ProLiant DL585 G2)
Accept unregistered events
Accept registered events with severity
Critical
Major
Minor
Warning
Informational
Enter IP range (e.g. 172.25.76.18 - 172.25.76.100), individual IP address, or host name; or simply enter an asterisk ( * ) to accept SNMP traps from all ranges.
Accept SNMP traps from discovered systems in IP ranges:
*
Discard SNMP traps from discovered systems in IP ranges:

3. Ensure events are generated – use the Insight Providers for Windows test event tool.
4. Make sure the WMI Mapper Indication Service is running.
5. Try to list the known subscriptions:
   - `Mxwbemsub -l -n <node name>`
   - Running the list command contacts the WMI CIMOM on the managed node and searches for the subscription.

## Confirming WBEM is identified as a management protocol

Confirm that the Insight Providers for Windows is identified as a management protocol:

1. Access the Systems page (the page that contains an overview of the selected server).
2. In the Product Description table there is an entry called **Management Protocols**. WBEM is one of the possible protocols.



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# For more information

For additional information, refer to the resources listed below.

| Resource description | Web address |
|---|---|
| ProLiant Server Support Matrix website | http://h10018.www1.hp.com/wwsolutions/windows/index-all.html |
| HP software and drivers | http://welcome.hp.com/country/us/en/support.html |
| Access to WMI Namespaces | http://msdn2.microsoft.com/en-us/library/aa822575.aspx |
| Connecting to WMI on a Remote Computer | http://msdn2.microsoft.com/en-us/library/aa389290.aspx |
| PSP website | www.hp.com/servers/psp |
| HP Systems Insight Manager | www.hp.com/go/hpsim |

# Call to action

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